

Use a periodic table of the elements to answer these questions.

1. The following graphics represent the nuclei of atoms. Using a periodic table of elements, fill in the table.

What the nucleus looks like	What is this element?	How many electrons does the neutral atom have?	What is the mass number?
	LITHIUM	3	7
	CARBON	6	12
	HYDROGEN	1	1
	HYDROGEN	1	3
	BERYLLIUM	4	9

2. Look at a periodic table. The atomic mass of hydrogen is 1.00794. Why is this number not rounded off to 1?

IT IS AN AVERAGE OF ALL OF THE ISOTOPES MASS (SHOWING

3. How many protons and neutrons are in the nucleus of each isotope?

- a. hydrogen-2 (atomic number = 1)  $P=1$   
 $N=1$
- b. scandium-45 (atomic number = 21)  $P=21$   
 $N=44$
- c. aluminum-27 (atomic number = 13)  $P=13$   
 $N=14$
- d. uranium-235 (atomic number = 92)  $P=92$   
 $N=143$
- e. carbon-12 (atomic number = 6)  $P=6$   
 $N=6$

Although electrons have mass, they are not considered in determining the mass number or atomic mass of an atom. Why?

THE MASS IS SO SO SMALL COMPARED TO THE MASS OF THE PROTON AND NEUTRON

A hydrogen atom has one proton, two neutrons, and no electrons. Is this atom neutrally charged? Explain your answer.

NO, IF THERE ARE NO ELECTRONS WHICH HAVE A NEGATIVE CHARGE AND ONE PROTON WITH A POSITIVE CHARGE IT WILL HAVE A +1 CHARGE

An atom of sodium-23 (atomic number = 11) has a positive charge of +1. Given this information, how many electrons does it have? How many protons and neutrons does this atom have?

$$P = 11$$

$$N = 12$$

$$E = 10$$